Coastal Texas Protection and Restoration Project

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August 2014
Discussion Topics

- Study Authorization
- Meeting Goals
- Coastal TX Project
- Sabine Pass to Galveston Bay - Related Study
- Corps Process
- Summary
- Submittal of Comments/Ideas
(a) In General.—The Secretary shall develop a comprehensive plan to determine the feasibility of carrying out projects for flood damage reduction, hurricane and storm damage reduction, and ecosystem restoration in the coastal areas of the State of Texas.
Meeting Goals

- Provide information on the Coastal Texas Project
- Provide an update on current on-going Sabine Pass to Galveston Bay Study
- Discuss the Corps process for Federally funded projects
- Receive input/comments from all stakeholders
Coastal Texas Study Area
Coastal Texas Study Goals

- Develop long-term comprehensive coastal plan for Texas
- Identify all problems and opportunities for Coastal Storm Damage Risk Management and Ecosystem Restoration Projects
  - Potential detailed focus on specific regions
- Identify potential projects that:
  - Protect lives, homes, infrastructure and industry
  - Protect the nation’s economy
  - Protect and restore the environment and natural resources
Consider the Following Questions:

- How is your community (or agency/organization) most vulnerable to coastal storms?
- What strategy should be implemented to reduce the risk of coastal storms?
- What ecosystem restoration projects are most needed, or could be implemented to improve coastal resilience?
Project Phase

- Reconnaissance Study
  - Determine Federal Interest
  - Gather information from:
    - General public
    - Towns, communities and public officials
    - Industry stakeholders
    - Environmental Resource Agencies
    - State and County Officials
    - Universities & Research Institutions

- Identify non-Federal Sponsor
- Execute Feasibility Cost Sharing Agreement
Texas Resources of National Importance

Population Centers
- 18 coastal Counties with 6.1 million residents/over 24% of the State’s population
- Houston/Galveston (Houston - Nation’s 4th largest city)
- Beaumont/Port Arthur/Freeport
- Corpus Christi/Brownsville/Harlingen Area/South Padre Island

Economic Resources
- Nationally ranked deep-draft Ports
  - Houston: 2nd; Beaumont: 5th; Corpus Christi: 7th; Texas City: 11th
- Gulf Intracoastal Waterway (GIWW): 423 miles of major shallow draft commercial corridor
- 40% of the Nation’s petrochemical industry
- 25% of national petroleum-refining capacity

Environmental Resources
- 367 miles of Gulf shoreline
- 3.9 million acres of wetlands
- 21 State and Federal Wildlife Refuges
- Endangered Species/Critical Habitats
- Commercial Fisheries
Coastal Storm Damage Risk

- Loss of life
- Destruction of infrastructure
  - Homes, roads, businesses, industry
- Economic impact to region and Nation
  - Closure of ship channels; small businesses & industries; job loss
- Environmental impact
  - Erosion of shorelines
  - Loss of wetlands
  - Impacts to wildlife
  - Hazardous materials
Integrated “Lines of Protection”

- Multiple lines – combination of natural and structural features
- Increasing levels of protection from offshore to inshore
Examples of Integrated Lines of Protection

- Low surge protection
  - Offshore breakwaters
  - Reduce waves and coastal erosion
Examples of Integrated Lines of Protection

- Low/medium surge protection
  - Marsh, beach and dune restoration
Examples of Integrated Lines of Protection

- High surge protection
  - Levees/flood walls
  - Block storm surge from moving inland

Freeport Hurricane Protection System

Texas City Levee
Hurricane Ike Aftermath
Examples of Integrated Lines of Protection

- High surge protection
  - Seawalls/flood gates
  - Protect developed areas from storm surges
  - Prevent storm surge from entering coastal inlets and bays
Examples of Ecosystem Restoration

- Oyster Reef Restoration – photo courtesy TNC
- Marsh Restoration – Neches River
- Bird Island Creation – Galveston Bay
- Shoreline Protection – GIWW in Jefferson Co (courtesy TNC)
- Beach Restoration – SPI
**Sabine Pass to Galveston Bay Project**

- **Purpose:** Identify CSDRM and ER projects
- **Non-Federal Sponsor:** TXGLO
- **Scoped in 2012**
- **250 potential CSDRM and ER measures identified and screened**
- **Detailed focus areas and future study areas identified**
- **Currently in Feasibility study phase**
  - Informed by related studies
- **Estimated cost of study:** $4.4M
- **Estimated completion date:** Sept 2016

**Study Area:** Upper TX coast
Structural Alternatives – Region 1

Alternatives B2, G2, G5, and S5 - Structural Alternatives for all Regions
Ecosystem Restoration – Region 1

Brazoria Region

Galveston Bay Region

Sabine Region
Sabine & Brazoria Area Focus

Coastal Storm Damage Risk Management Features

- Reevaluation of existing Freeport Hurricane Flood Protection Levee
- Evaluation of levees in Orange and Jefferson Counties & reevaluation of Port Arthur Hurricane Flood Protection Levee
Galveston Bay Region – Future Study

Coastal Storm Damage Risk Management Focus

Galveston Bay Coastal Barrier

Galveston Bay Inland Barriers
**Corps Process**

- **Identification of Problem**
- **Reconnaissance Phase (~1 yr)**
- **Feasibility Phase* (3 yrs)**
- **Preconstruction, Engineering and Design (2-3 yrs)**
- **Construction**
- **O&M**

*Feasibility Phase includes *alternatives analysis and NEPA compliance* to determine best plan to provide an environmentally sustainable solution which provides economic value to the nation.

- Must have Federal Interest and non-Federal Sponsor
- Must have Feasible Project and non-Federal Sponsor

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**Congressional Authorization**

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### Congressional Appropriation

*Non-Fed Sponsor*

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SMART Planning
• 2012 the Corps established new policies modernizing the Planning process to reduce costs and time
• 3x3x3 = complete studies in 3 years; cost $3M; 3 levels of review
• Studies that would not fit into this policy require an exemption from HQUSACE

Water Resources Reform Development Act (WRRDA) 2014
• HQUSACE developing implementation guidance
Feasibility Analyses Required

- **Engineering**
  - Impacts to physical environment and processes
    - Circulation/salinity/flooding/erosion
  - Constructability/operability
    - Engineering feasibility
    - Real Estate requirements

- **Economics**
  - Damages to property (personal and public) from flooding
  - Project costs (study, design, construction and O&M)
  - Benefit to cost ratio (NED Plan)
  - Life/health (social impacts)
Feasibility Analyses Required

- Environmental
  - National Environmental Policy Act (NEPA) compliance
    - Impacts to natural environment
      - Fish and wildlife
      - Habitat
    - Hazardous material spills
    - Cultural Resources
All studies/projects need a non-Federal Sponsor to provide cost-share funds
  • Cost-share funds required in all phases
  • Amounts vary depending on phase or activity

Sponsors need to be public entity with taxing authority

Studies/Projects can have one or multiple sponsors
Summary

- Gathering ideas for addressing coastal storm risk management and ecosystem restoration

Opportunity to:
  - Identify specific problems within local areas
  - Generate potential options to evaluate during feasibility
  - Establish potential partnerships
  - Address the Galveston Region

Non-Federal Sponsor: ???
  - If no Sponsor is identified – the study does not progress to the feasibility phase
Submittal of Comments/Ideas

Comments/ideas due by Sept 26, 2014

Send written comments to:

District Engineer, Galveston District
U.S. Army Corps of Engineers
Attn: Coastal TX Protection and Restoration Study
CESWF-PEC-TN
P.O. Box 1229
Galveston, Texas 77553-1229

Send e-mails to: Janelle.S.Stokes@usace.army.mil